

CHAPTER II

ISSUES, KEY QUESTIONS, AND RELEVANT PROCESSES TO BE ANALYZED

A. PURPOSE

This chapter identifies the issues and key questions associated with the Meadow Creek Watershed. The issues identify the primary areas of concern in the watershed. Key questions focus the analysis of processes and functions directly related to the major issues. Key questions reflect the many facets of the issues and are questions this analysis will attempt to answer. They are viewed within the larger context of regional, basin, and provincial issues.

B. ISSUES AND KEY QUESTIONS

Issues and key questions focus watershed analysis on the important questions, so that efforts concentrate on the processes and functions directly related to desired conditions, values and uses of the watershed. The following issues and key questions are specific to the Meadow Creek watershed.

Issues

Key questions for this watershed are grouped under the Issue headings described below (Core Topics from The Federal Guide for Watershed Analysis - Version 2.2). Key Questions for each of these resource areas are listed under three major dimensions (Physical, Human, Biological).

Physical Dimension:

- Aquatic
- Roads Analysis
- Soils

Human Dimension:

- Roads Analysis – Human Factors
- Roads Analysis – Economic Factors

Biological Dimension:

- Old Growth and Structural Diversity
- Elk and Deer Habitat Effectiveness
- Roads Analysis – Biological Factors
- Riparian Habitat and Condition
- Threatened, Endangered, Sensitive Species
- Fire and Fuels
- Noxious Weeds
- Range
- Insect and Disease

Analysis

The Watershed Analysis Team developed measurement indicators for each of the key questions to aid in the desired condition descriptions and the opportunities section of this document. These issues have been identified to assist in focusing biological and physical conditions in the watershed to answer the following questions.

1. What are the needs for restoration within the watershed?
2. Where are these needs located?

3. What are the resource thresholds for the restoration needs and opportunities within the watershed?
4. Do the restoration needs identified in the analysis have timing restrictions or other needs based on the threshold analysis?
5. What are the priorities for restoration within the watershed?
6. What are the monitoring needs for this watershed?

The team decided to pursue the answers to these six questions to varying degrees, based on the data available for each resource area. The primary focus of the analysis is on those subwatersheds with a high percentage of National Forest System lands. The analysis will attempt to determine effects thresholds, restoration needs, and commodity output opportunities.

THE PHYSICAL DIMENSION

AQUATIC

1. Where and how have management activities affected riparian function?
Measurements: Streamflow, width/depth ratio, equivalent clearcut area, riparian vegetation, acres of timber harvest within RHCAs, pieces of large woody debris per mile, streambank stability, miles per square mile of open roads, and miles per square mile of all roads (open and closed).
2. Where are water quality and habitat conditions NOT meeting the physical and biological requirements of TES fish species?
Measurements: Pieces of large woody debris per mile, temperature, number of physical barriers to fish passage, number of pools/mile, pool quality, pool frequency, miles of roads within 100' of streams, miles per square mile of open/closed roads within subwatershed (SWS).

ROADS ANALYSIS – Physical Dimension Factors

1. **Aquatic** - How and where does the road system affect water quality?
Measurements: Miles of open native surface drawbottom roads, miles of roads within 100' of drawbottoms.
2. **Aquatic** - How and where does the road system affect water quantity?
Measurements: Miles of road within RHCAs, miles of drawbottom roads, numbers of culverts, number of culverts adequate to handle 100 year flood event.
3. **Hydrologic** - How and where does the road system affect stream channel dynamics?
Measurements: Miles of roads within RHCAs, number of culverts adequate to handle 100 year flood event.

SOILS

1. What is the current level of detrimental soil compaction which affect vegetative site productivity and what are the restoration opportunities that are available to move the area toward the desired conditions?
Measurements: Percent detrimental soil compaction within planning area.

THE HUMAN DIMENSION

ROADS ANALYSIS – Human Dimension Factors

1. **Resource Management and Administrative Use:** How does the road system affect access for resource management and Administrative Use? (Timber management, research & monitoring, fuels management, allotment management)
Measurements: Open road densities (miles per square mile) for each Forest Plan Management area by SWS, acres of forest land without road access (open/gated roads).
2. **Other Ownership Access:** How does the road system connect large blocks of land in other ownership to public roads?
Measurements: Number of access routes per individual private land inholding.
3. **Safety:** How does the road system address the safety of road users (including public, firefighters, and agency users)?
Measurements: Number of roads and road numbers with maintenance levels too low for current use levels, number of roads and road numbers with maintenance levels too high for current use levels, roads without adequate turn arounds at the end or at closures.
4. **Heritage:** Which roads or areas hold cultural, symbolic, spiritual, sacred, traditional, or religious values for people (ethnic groups, subcultures, etc) that may be planned for road entry or road closure?
Measurements: Areas, on and off public lands, tied to a map where heritage resources are located, areas tied to maps which are of cultural significance to the tribes. Map and list of roads with cultural significance to tribes or local users.
5. **Recreation – Roads & Access:** What is the appropriate level of open roads within the area to provide for people's access and recreation needs? Are maintenance levels adequate to meet the use levels the roads are currently experiencing and anticipated use levels into the future? Is there now or will there be in the future excess supply or excess demand for roaded recreation opportunities?
Measurements: Number of access routes to existing dispersed recreation sites. Number of roads and road numbers with maintenance levels too low for current use levels, number of roads and road numbers with maintenance levels too high for current use levels.
6. **Recreation – OHV Management:** A significant percentage of recreationists use Off Highway Vehicles (OHVs) for cross country access, trail riding, and closed road access. There is little regulation of OHV use. Unregulated OHV use enhances some people's recreation experience and detracts from others. Is the use of OHVs properly distributed and managed?
Measurements: Number of miles of OHV recreation available on roads, number of miles of OHV recreation available on trails, number of acres of closure areas, number of acres of cross country travel allowed, acres of high density use, and acres of low density use.

ROADS ANALYSIS – Economics

1. How does the road system affect the agency's direct costs and revenues? What, if any, changes in the road system will increase net revenue to the agency by reducing cost, increasing revenue, or both?
Measurements: Deferred maintenance cost per road, Miles of deferred maintenance by maintenance level, Total decommissioning cost per road.

2. How is community social and economic health affected by road management (for example, lifestyles, businesses, tourism industry, infrastructure maintenance)?
Measurements: Number of user days, number of hunter user days, miles of road maintenance by road and SWS, cost of road maintenance by road and SWS.

THE BIOLOGICAL DIMENSION

OLD GROWTH and STRUCTURAL DIVERSITY

1. What are the structural stage acres by biophysical group and what are their departures from historic range of variation (HRV)?
Measurements: Acres of existing structural stages by biophysical environment. Acres of departure from HRVs.

ELK AND DEER HABITAT EFFECTIVENESS

1. What is the status of elk and deer habitat within the planning area?
Measurements: Percent cover:forage by SWS, percent cover by SWS, road densities on National Forest Lands in mile/square mile by SWS. Departure from Forest Plan standards and guidelines.

ROADS ANALYSIS – Biological Dimension Factors

1. **Wildlife:** What are the road system effects on elk habitat?
Measurements: Miles per square mile of roads by SWS by Forest Plan Management Area.
2. **Aquatics:** How and where do roads affect riparian vegetation?
Measurements: Miles of roads in RHCAs.

RIPARIAN

1. What is the condition of riparian habitat as it relates to suitability for aquatic species, including species listed under ESA?
Measurements: Acres of RHCA disturbance, miles of drawbottom roads, miles of open native surface drawbottom roads, stand density indices of RHCAs.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES

1. What TE&S and candidate plant, animal, and fish species occur within the watershed and what activities and processes are influencing them?
Measurements: List of TES and candidate species.

FIRE & FUELS

1. Where are the areas that display a departure from historical fire return intervals and what activities can move these areas toward a desired stand structure and adequate fire return interval?
Measurements: Acres of Fire regimes by ecoclass by SWS, Acres of fire return interval departures by SWS, percent acres in Fire Regimes 1 and 3 within each SWS, Acres of moderate and High Fire return interval departures by SWS.
2. Where are fuel loadings representing a threat of damaging wildfire in the Watershed and what opportunities are available to alleviate that risk?
Measurements: Total number of fires by cause, percent of fires by cause, acres of fires by cause, percent of acres by cause, total number of fires by size class, percent of fires by size class, fire occurrence rates per 1,000 acres, fire risk assessment acres by SWS.
3. What are the effects of prescribed fire vs. wildfire on air quality in the watershed and the adjacent sensitive airsheds?
Measurements: Tons of PM10 for wildfire, tons of PM10 for prescribed fire, acres of mechanical fuels reduction, acres of prescribed fire fuel reduction.

NOXIOUS WEEDS

1. What noxious weed species occur in the watershed and what is their status?
Measurements: Acres of noxious weed infestations, distribution, and species.

RANGE

1. Where are the specific areas or pastures where past management impacts related to grazing occur and what are the opportunities to restore them?
Measurements: Utilization levels, streambank stability, appropriate watering locations, changes in riparian vegetation from historic or desired grass/shrub systems, condition and age classes of shrubs.

INSECT & DISEASE

1. What were the historic levels of insect and disease and where are the potential risk areas?
Measurements: Acres of low, moderate, and high risk areas for forest insects and diseases.